REMARKS

Claims 1-37 are pending in the application, claims 38-78 remain withdrawn. Claims 2, 9, 31 and 32 have been amended.

Claims 2, 9, 31 and 32 Rejected under §112, second paragraph

Claim 2 has been amended to provide proper antecedent basis for the limitation.

Claim 9 has been amended to provide proper antecedent basis for the limitation.

Claim 31 has been amended to provide proper antecedent basis for the limitation.

Claim 32 has been amended to provide proper antecedent basis for the limitation.

Generally

Applicant has analyzed the Examiner's Office Action and believes that a brief explanation of the terminology used in the pending claims would be useful for understanding the Applicant's invention and how it differs from the cited references.

Claim 1 recites a "frame". Applicant refers the Examiner to FIG. 19E which shows a frame (1970), and actuator with a movement mechanism (1952) and a joint (not numbered but shown connecting actuator to frame at the top (1966) of frame). Looking at both of the cited references, neither of them has a "frame" as it is used in claim 1. Instead, the Examiner has taken the support column (8) and base (9) of US 5,830,160 to *Reinkensmeyer* (the '160 patent) and likened them to the Applicant's frame limitation when it is, in reality, just a stand for the '160 patent actuator. With respect to US 5,755,645 to *Miller, et al.* (the '645 patent), the Examiner has mischaracterized the tubular arm member (18) as analogous to the "frame" element recited in claim 1. However, the tubular arm member is analogous to the linear extension of the actuator of the Applicant's invention, not the frame. Both the '160 patent and the '645 completely lack a frame element, as it is used by the Applicant.

Claims 1-16, 19-25, 27-30 and 32-37 Rejected under §103(a)

The Examiner has rejected claims 1-16, 19-25, 27-30 and 32-37 under 35 U.S.C. §103(a) in view of the '160 patent. Applicant respectfully disagrees with this rejection for the reasons set forth below.

An important distinction between Applicant's claim 1 and the '160 patent is that Applicant's claim 1 includes three distinct elements, a frame, an actuator and a joint connecting them, but the '160 patent is missing two of the three elements. Applicant uses the term frame as something which encloses or surrounds. The Applicant's frame (1970) surrounds the bed (1951) and the actuator (1952).The Examiner argues that the support column (8) and base (9) are analogous to the frame of the Applicant's invention; however these two elements combined are merely a stand for the actuator (4), not a frame. Because the '160 patent does not have a frame, it also cannot have a joint that connects a frame to the actuator; the '160 patent is missing 2 of the 3 major elements of claim 1.

The importance of a frame which surrounds the patient is clear in view of the joint limitation which provides that the actuator can move around the frame, thereby allowing the patient to exercise from multiple positions around his/her body without actually having to change position. Using just a stand, however, does not provide the same effect.

The Examiner argues that the '160 patent provides "an actuator which includes a movement mechanism capable of applying a force... **in at least three degrees of freedom** of motion of the actuator." However, an analysis of the '160 patent embodiments shows that movement created by the drive box (4) is only in one degree of freedom, that is, motion around the B axis. In order to provide any further degrees of freedom, for example sliding along axis A, a second movement mechanism (the user attachment interface (14)) is added to the track of the '160 device.

In contrast, claims 1 and 37 of the present application claim a singular movement mechanism which is capable of achieving motion in at least three degrees of freedom of the actuator.

Another distinction between the '160 patent and claim 1 of the present application is that, in the present application, a single joint which connects the actuator to the frame is used to place the movement mechanism in different locations relative to a frame. While the Examiner fails to identify specifically a joint and merely refers to an entire Figure, it

is noted that any "joint" shown in FIG. 2 does not connect the frame to the actuator while enabling movement relative to the drive box (4) such that the volume in which movement occurs moves relative to any frame. Any argument that a different "joint", that of the user attachment interface, anticipates the joint recited in claim 1 is flawed because this particular '160 patent "joint" only allows for movement in two degrees of freedom and in any event, this user attachment interface "joint" doesn't connect a frame to the actuator, it connects the user attachment interface to the track.

Therefore, because the cited reference does not teach all of the limitations of claim 1, and no evidence has been put forward by the Examiner that combining the '160 with knowledge of those skilled in the art would create the device of claim 1 by supplying the missing elements, the Examiner has failed to establish a *prima facie* case of obviousness. It is believed that for at least these reasons, claims 1 and 37 and any claims dependent on them are patentable in view of the '160 patent.

Claims 1-5, 12 and 17-18 Rejected under §103(a)

The Examiner has rejected claims 1-5, 12 and 17-18 under 35 U.S.C. §103(a) in view of the '645 patent. Applicant respectfully disagrees with this rejection for the reasons set forth below.

Claim 1 of the present invention includes "a movement mechanism **capable of applying a force** that interacts with a motion of a patient's limb". Application of force in this context is a positive application of force, in that the device supplies force to assist with the movement of the patient's limb. Applicant's claim 1 also includes the limitation "capable of preventing substantial motion" which is at least partially achieved through braking. So in claim 1, the actuator is controlled by a motor for applying force to the patient to stimulate motion and/or by resisting the patient using brakes to slow down patient motion.

A feature of the '645 devices is that they are passive, that is, no forces are applied to the patient. *See* Col. 2, lines 1-4, where it says that safety of the '645 device is improved because there are no actively moving members. Therefore, while the '645 patent describes being able to prevent substantial motion of the patient (by braking), it

does not describe, and in fact teaches away from, applying motive force to the patient's limb during exercise.

In addition, claim 1 of the application recites a joint which is capable of moving the movement mechanism on the frame so that the movement volume moves relative to the frame. As discussed above, since there is no frame element described in the '645 patent, there can be no joint which connects the actuator to a frame and which also allows movement of the actuator on the frame to effectuate movement of the movement volume.

Therefore, because the cited reference does not teach all of the limitations of claim 1, and no evidence has been put forward by the Examiner that combining the '645 with knowledge of those skilled in the art would create the device of claim 1, the Examiner has failed to establish a *prima facie* case of obviousness. It is believed that for at least these reasons, claims 1 and 37 and any claims dependent on them are patentable in view of the '645 patent.

Double Patenting

Claims 1-37 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over 8,012,107 in view of the '160 patent and/or the '645 patent. In view of arguments made above, it is believed that the current claims are neither identical nor obvious in view of the cited references.

In view of the amendments and arguments made above, Applicants believe the claims are in a condition for allowance. Notice to this effect is respectfully requested.

Respectfully submitted,

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